Joe R. Nichols

County Engineer - Water Dept.

St. Charles County

QUARTERLY REPORT

ST. CHARLES COUNTY WELL FIELD

MONITORING PROJECT

GRANT NO. DE-FG05-89OR21864

Prepared by: Stanley Remington
April, May and June, 1995

201 North Second Street • Suite 429 • Saint Charles, Missouri 63301-2874
314-949-7305 • Fax 314-949-7307

MONTHLY REPORT

APRIL 1995

BY

Stanley M. Remington

Consulting Hydrologist

I. CHEMICAL ANALYSES

The results of the treated water from the Weldon Spring Chemical Plant site have been received and are appended. This sample was taken on April 4, 1995. The tests show that all of the potential hazardous chemicals have been removed. All test results show that the total quantities of the parameters tested for are well below the NPDES limits. This batch was discharged into the Missouri River.

The results from well number PW-4 have been received and are appended. These samples were taken on March 16, 1995. The results are all within the historical records of past analyses.

Well number PW-5 was sampled on April 16, 1995. The results have not yet been received.

II. FUTURE PLANS

I will sample well number PW-6 and RMW-2 during mid-May. RMW-2 will only be tested if accessibility is possible into that well. These samples will be quarterly samples wherein I will split samples with the Department of Energy and the Missouri Department of Natural Resources. Additional parameters will tested for than I normally check.

III. MISCELLANEOUS

Enclosed is the St. Charles County Water Department's Monthly Water Usage Report.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

April 5, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #12551.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on March 16, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1255101R(000)
DATE : 04-05-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #12551
DATE SUBMITTED: 03-16-95
PROJECT : WELDON SPRING

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
PW-4	12551.01	pCi/L	GROSS ALPHA	3 +/- 2*
PW-4	12551.01	pCi/L	GROSS BETA	7 +/- 3*
PW-4	12551.01	mg/L	TOTAL URANIUM	0.009

* VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L= PICOCURIES PER LITER
ppm = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1255101X(222)
DATE : 04-05-95

SAMPLE MATRIX : WATER
ATAS # : 12551.01
DATE SUBMITTED: 03-16-95
DATE ANALYZED : 03-18-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW-4

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1255101X(222)
DATE : 04-05-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 03-16-95
DATE ANALYZED : 03-18-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

ND NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1255101X(222)

DATE : 04-05-95

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 03-16-95
DATE ANALYZED : 03-17-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY	QC LIMITS RECOVERY
HMX	1600	ND	1629	102 %	46-151
RDX	1300	ND	1346	104 %	72-129
1,3,5-TNB	900	ND	936	104 %	74-118
TETRYL	1650	ND	1825	111 %	58-120
1,3-DNB	475	ND	497	105 %	79-132
TNT	750	ND	788	105 %	61-145
NITROBENZENE	850	ND	904	106 %	68-135
2,6 DNT	1150	ND	1150	100 %	77-125
2,4 DNT	700	ND	735	105 %	70-134
o-NITROTOLUENE	1450	ND	1553	107 %	73-131
p-NITROTOLUENE	1000	ND	1068	107 %	73-116
m-NITROTOLUENE	950	ND	996	105 %	71-127

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

875 Fee Fee Road • Maryland Heights, MO 63043-3211 • Office (314) 434-4570 • FAX (314) 434-0080

PAGE _ OF ____

CHAIN OF CUSTODY RECORD

ATAS Client Name: STAN REMINGTON

Project Name: WELDON SPRING

Project #:

Form Completed By: SMR

PO #:

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	Type of Analysis: TOTAL U	GROSS α	GROSS β	NITROS	TSS					Remarks
PW-4	3/16/95	0930					X	X	X	X						
WATER TREAT. PLANT											X					

Preservative: Ice, Chemical (see below)

Lab Use Only: Initials CM; Date 3.16.95; Location/Temp AL-LA 15C; 12657-11

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: S.M. REMINGTON	Signature: LAUREN M ROSENBERG	Signature:	Signature:
Printed Name: ST. CHARLES COUNTY	Printed Name: ATAS	Printed Name:	Printed Name:
Firm: 3/16/95 9:25AM	Firm: 3/16/95 0925	Firm:	Firm:
Date/Time	Date/Time	Date/Time	Date/Time

Turnaround Requirements

____ 1 to 2 working days

____ 3 working days

____ 5 working days

____ 10 working days

____ 15 working days

Preservative codes

A - none

B - HNO_3

C - H_2SO_4

D - NaOH

E - HCl

F -

SEND RESULTS TO (Name & Company) : _____

SAMPLING PROTOCOL

Parameter	Soil	Water		Non-aqueous Fluids & Solid - Liquid Mixtures
	Type of Container	Type of Container		Type of Container
BTEX/Volatiles[1]	(1) 4 oz. precleaned glass (No Headspace)	(2) VOA vials (HCL) (No Headspace)		(1) VOA vial (No Headspace)
TPH[1]	(1) 4 oz. glass	(1) 32 oz. glass (HCL)		(1) 32 oz. glass
PNAs[2]	(1) 4 oz. precleaned glass	(1) 32 oz. precleaned amber glass		(1) 32 oz. glass
PCBs[1]	(1) 4 oz. glass	(1) 32 oz. precleaned amber glass		(1) 32 oz. glass
Metals (Wastewater)	—	(1) 32 oz. plastic (HNO_3)		—
Metals (Site Assessment Samples)	(1) 4 oz. glass	(1) 32 oz. plastic (Filtering necessary; add HNO_3) NOTE: Amount of sample is based on amount of solids.		—
Flashpoint[2] Corrosivity, Reactivity	(1) 4 oz. glass	(1) 16 oz. plastic		(1) 16 oz. glass
TCLP Metals[3]	(1) 16 oz. glass	<0.5% solids	(1) 32 oz. glass	(1) 32 oz. glass
		>0.5% solids	(1) 1/2 gallon glass	
ZHE (Zero Head-space Extraction)	(1) 4 oz. precleaned glass (No Headspace)	<0.5% solids	(2) VOA vials (No Headspace)	(1) VOA vial (No Headspace)
		>0.5% solids	(1) 32 oz. glass (No Headspace)	
TCLP BN/AE & Pest. & Herbs.[2,3]	(1) 4 oz. precleaned glass	(2) 32 oz. precleaned amber glass		(1) 32 oz. glass
TTOs (Total Toxic Organics)	(1) 4 oz. precleaned glass (No Headspace)	(2) VOA vials (HCL) and (2) 32 oz. precleaned amber glass (No Headspace)		(1) 32 oz. glass (No Headspace)

EXCEPTIONS

1. When combining parameters for *only* soil, (1) 4 oz. precleaned glass container is necessary.
2. When combining parameters for *only* soil, (1) 32 oz. glass container is necessary.
3. When combining parameters for *only* water and ot[illegible] (1) 1/2 gallon glass container is necessary.
   When combining parameters for *only* water and oth[illegible] and recovery correction is required, (1) gallon glass container is necessary.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

April 11, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #12736.01
WSSRAP

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on April 4, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1273601R(222)

DATE : 04-11-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #12736
DATE SUBMITTED: 04-04-95
DATE ANALYZED : 04-08-95
PROJECT : WSSRAP

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
NP-ESP1-040495-A-C	12736.01	pci/L	GROSS ALPHA	2 +/- 4*
NP-ESP1-040495-A-C	12736.01	pci/L	GROSS BETA	13 +/- 4*
NP-ESP1-040495-A-C	12736.01	mg/L	TOTAL URANIUM	<0.05

* VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L = PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1273601X(222)
DATE : 04-11-95

SAMPLE MATRIX : WATER
ATAS # : 12736.01
DATE SUBMITTED: 04-04-95
DATE EXTRACTED: 04-05-95
DATE ANALYZED : 04-08-95
METHOD REF. : SW846-8090(MOD), EPA METHODOLOGY
PROJECT : WSSRAP
SAMPLE ID : NP-EPS1-040495-A-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	REPORTING LIMIT	RESULTS
2,6-DINITROTOLUENE	0.010	ND
2,4-DINITROTOLUENE	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	59 %
TETRACHLORO-M-XYLENE	79 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: BK0411EX(222)
DATE : 04-11-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 04-04-95
DATE EXTRACTED: 04-05-95
DATE ANALYZED : 04-08-95
METHOD REF. : SW846-8090(MOD), EPA METHODOLOGY
PROJECT : WSSRAP
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	REPORTING LIMIT	RESULTS
2,6-DINITROTOLUENE	0.010	ND
2,4-DINITROTOLUENE	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	57 %
TETRACHLORO-M-XYLENE	81 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: QC0411EX(222)
DATE : 04-11-95

SAMPLE MATRIX : WATER
ATAS # : SPIKE BLANK/SPIKE BLANK DUPLICATE
DATE SUBMITTED: 04-04-95
DATE EXTRACTED: 04-05-95
DATE ANALYZED : 04-08-95
PROJECT : WSSRAP
SAMPLE ID : SPIKE BLANK/SPIKE BLANK DUPLICATE

SPIKE BLANK/SPIKE BLANK DUPLICATE RESULTS

	SPIKE ADDED (ug/L)	AMT. FOUND BLK (ug/L)	AMT. FOUND SB (ug/L)	SB PERCENT RECOVERY
2,6-DINITROTOLUENE	0.250	ND	0.213	85 %
2,4-DINITROTOLUENE	0.250	ND	0.217	87 %

	AMT. FOUND SBD (ug/L)	SBD PERCENT RECOVERY	RECOVERY PERCENT DIFFERENCE
2,6-DINITROTOLUENE	0.208	83 %	2.4 %
2,4-DINITROTOLUENE	0.208	83 %	4.7 %

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1273601M(222)
DATE : 04-11-95

SAMPLE MATRIX : WATER
ATAS # : 12736.01
DATE SUBMITTED: 04-04-95
PROJECT : WSSRAP
SAMPLE ID : NP-EPS1-040495-A-C

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE-SPEC.	1.0	mg/L	4.31	04-07-95	SM418B
			METALS		
ARSENIC	10.0	ug/L	ND	04-07-95	SW 6010
CHROMIUM	1.0	ug/L	ND	04-07-95	SW 6010
LEAD	3.0	ug/L	ND	04-07-95	SW 6010
MANGANESE	1.0	ug/L	1.8	04-07-95	SW 6010
MERCURY	0.15	ug/L	ND	04-07-95	SW 7470
SELENIUM	5.0	ug/L	ND	04-07-95	SW 6010

ug/L = PARTS PER BILLION(PPB)
mg/L = PARTS PER MILLION(PPM)
ND = NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1273601M(222)

DATE : 04-11-95

QA/QC

DESCRIPTION		PARAMETER	RESULTS	
METHOD BLANK	04-07-95	ARSENIC	<10.0	ug/L
METHOD BLANK	04-07-95	CHROMIUM	<1.0	ug/L
METHOD BLANK	04-07-95	LEAD	<3.0	ug/L
METHOD BLANK	04-07-95	MANGANESE	<1.0	ug/L
METHOD BLANK	04-07-95	MERCURY	<0.15	ug/L
METHOD BLANK	04-07-95	SELENIUM	<5.0	ug/L
BLANK SPIKE	04-07-95	ARSENIC	104 %	RECOVERY
BLANK SPIKE	04-07-95	CHROMIUM	99 %	RECOVERY
BLANK SPIKE	04-07-95	LEAD	98 %	RECOVERY
BLANK SPIKE	04-07-95	MANGANESE	99 %	RECOVERY
BLANK SPIKE	04-07-95	MERCURY	99 %	RECOVERY
BLANK SPIKE	04-07-95	SELENIUM	107 %	RECOVERY

C

ENVIRONMENTAL SAMPLE CHAIN-C USTODY / AUTHORIZATION FORM

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304
TELEPHONE (314) 441-8086 TELEX (314) 447-0803

Validation Documentation ☐

ES&H 14.3.1, Rev.6, Effective 11/93

WSSRAP Contact:
Phone Number:
Request Number:

Lab/P.O. #:
Dept/Cost Code:
Requisitioner: St. Charles
Turnaround Time: ☐ Standard ☐ Accelerated ☐ Priority ☐ Urgent ☐ Emergency

#	Sample ID	QC	Date Sampled	Matrix	Cont.	Preserv.	Parameters	Arch. (Y/N)
	NP-EPS1-040495-A-C		4/4/94	Water	1-1 liter	HNO3	As,Cr,Hg,Mn,Se,Pb 12736.01	N
					1-1 liter glass	Ice	2,4-DNT	
					1-1 liter	H2SO4	NO3	
					1-4 liter	HNO3	U, Gross alpha, Gross beta	

8°C WP A-A-95 AA-BA ACL

Sampler's Signature

Checked By

Technical Reviewer

Relinquished By	Received By	Date	Time	Reason for Transfer	Seal Intact? (Y/N)	Cooler Temp
		4/4/95	1206			
		4/4/95	1250			8°C

AUTHORIZATION

W-F Procurement Date

ES&H Date

Site Shipping Officer Date

DATE: 04/04/95

ST. CHARLES COUNTY WATER DEPARTMENT

MONTHLY WATER USAGE REPORT

MONTH OF: MARCH	USAGE	AVG MGD	Y TO D USAGE	Y TO DATE AVG MGD
PLANT PRODUCTION	265710000	8.50	745880000	8.29
PLANT USE	8176000	0.20	36590000	0.41
DELIVERED TO SYSTEM	257534000	8.30	709386000	7.88
MISSOURI CITIES WATER	206618000	6.80	590831000	6.56
WATER DISTRICT #2 24" LINE	36682000	1.10	95504000	1.06
WATER DIST. #2 NEW MELLE	6085000	0.20	15840000	0.18
NATIONAL GUARD AREA	28000	0	49000	
TOTAL METER SALES	249413000	7.90	702224000	7.80
UNMETERED AND UNACCOUNTED	8121000	0.20	8311000	0.09

INVENTORY OF CHEMICALS

	LIME	CHLORINE
PREV. BALANCE	+: 297726	+: 11316
RECEIVED	+: 387580	+: 16000
TOTAL	=: 685306	=: 27316
USED	-: 328163	-: 16160
BALANCE	=: 357143	=: 11156
POUNDS PER 1000 GALLONS	=: 1.23	=: 0.061
PARTS PER MILLION	=: 148	=: 0.073
AVG. POUNDS PER DAY	=: 10586	=: 521
POUNDS USED YEAR TO DATE	=: 904047	=: 46260

DATE: 04/04/95 FOR THE MONTH OF: MARCH

METER READINGS

ACCOUNT #	METER	TO: 03/31/95 FROM: 02/28/95 USAGED			
	URI CITIES BOOSTER STATION				
	ULTRA SONIC #1	+: 638065	-: 509580	=:	
	ULTRA SONIC #2	+: 924347	-: 852885	=:	
	TOTALIZER	+: 5297571	-: 5094169	=:	205264000
METERS BEFORE MISSOURI CITIES BOOSTER STATION		TO: 03/03/95 FROM: 01/30/95 USAGED			
04-50-1328350	1. FH ANNEX 4"	+: 1191	-: 1175	=:	16000
04-50-1328500	2. MO STATE SHED	+: 194	-: 189	=:	5000
04-50-1330000	3. DOE LAB LARGE	+: 418	-: 410	=:	8000
	SMALL	+: 11718	-: 11217	=:	501000
04-50-1330401	4. DOE FIRE LINE	+: 16565	-: 16211	=:	354000
04-50-1330701	5. DOE TRAILERS	+: 82	-: 82	=:	
04-50-1330100	6. DOE 8" #1 LARGE	+: 6174	-: 6093	=:	81000
	SMALL	+: 6071	-: 6065	=:	6000
04-50-1330200	7. DOE 8" #2 LARGE	+: 1973	-: 1963	=:	10000
	SMALL	+: 2443	-: 2440	=:	3000
04-50-1320200	8. DOE 3"	+: 4041	-: 3754	=:	287000
04-50-1328550	9. FH SCHOOL	+: 12806	-: 12723	=:	83000
			TOTAL	=:	1354000
			MISSOURI CITIES TOTAL	=:	206618000
	R DIST. #2 24" LINE	TO: 04/01/95	FROM: 03/01/95 USAGED		
	24" EAST	+: 201747	-: 201747	=:	
	24" WEST	+: 014806	-: 978124	=:	36682000
	BYPASS	+: 2340	-: 2340	=:	
			WATER DIST. #2 TOTAL	=:	36682000
	NEW MELLE	+: 259579	-: 253494	=:	6085000

MONTHLY REPORT

MAY 1995

BY

Stanley M. Remington

Consulting Hydrologist

I. CHEMICAL ANALYSES

The results from the sampling of well number PW-5 have been received and are appended. This sample was taken on April 18, 1995. All of the results were either non-detect or were well within the NPDES limits.

The results of the treated water from the quarry were received and are appended. This sample was taken on May 23, 1995. Again the results show the efficiency of the treating procedures. The chemical contents are all well below the NPDES limits. This batch was discharged into the Missouri River.

The results of the treated water from the chemical plant site were received and are appended. This was taken on May 15, 1995. As in the case of the quarry treated water, similar results were attained.

Two analyses for microscopic particulates (MPA) were taken by the Missouri Department of Natural Resources from wells numbered 4 and 2 taken on April 18 and April 19 respectively. The results are appended. These were taken to determine if a groundwater source is under the direct influence of surface water. No major detections were noted indicating that the wells are not affected by surface water

contamination.

Enclosed are the effluent summary sheets for the batches of water treated and discharged during the first quarter of 1995 by the U.S. Department of Energy.

II. FUTURE PLANS

Because of the flooding of the St. Charles County well field, no samples will be taken from the individual wells during June 1995. Instead, I will sample the composite, untreated well water taken at the plant site. If the well field becomes accessible by the middle of July, I will resume taking samples from the individual wells at that time. The DOE and I were originally scheduled to do the quarterly sampling on June 8, 1995. This will be postponed.

III. REPORTS

The quarterly environmental data summary for first quarter 1995 was received from the Department of Energy on May 2, 1995. Some slight increases were noted on some of the DOE observation wells near the quarry rim. These increases are attributed to the measured increases in source water concentration monitored during bulk waste disturbance in the quarry during waste removal and subsequent relatively

slow migration through water fractures from the quarry. No permit NPDES limits were exceeded. The report is available from the St. Charles County Executive, the Department of Energy or me for anyone interested in the data.

IV. MISCELLANEOUS

The St. Charles County Water Department's Monthly Water Usage Report for the month of April 1995 is appended. The hazardous debris removal from the quarry has almost been completed. There is no longer any water in the quarry except during rainy periods. The treated water taken from the quarry on May 23, was from the heavy rains prior to May 23. Consequently the quarry will no longer be a source of contamination to the St. Charles County well field. The crevices within the quarry will all be cleaned out in the near future.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

May 16, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #12840.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on April 18, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1284001R(225)
DATE : 05-16-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #12840
DATE SUBMITTED: 04-18-95
PROJECT : WELDON SPRING

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
PW-5	12840.01	pCi/L	GROSS ALPHA	-1 +/- 3*
PW-5	12840.01	pCi/L	GROSS BETA	6 +/- 4*
PW-5	12840.01	mg/L	TOTAL URANIUM	<0.005

* VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L= PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1284001X(225)
DATE : 05-16-95

SAMPLE MATRIX : WATER
ATAS # : 12840.01
DATE SUBMITTED: 04-18-95
DATE ANALYZED : 04-21-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW 5

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

ND- NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-008

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1284001X(225)

DATE : 05-16-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 04-18-95
DATE ANALYZED : 04-21-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

ND. NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1284001X(225)

DATE : 05-16-95

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 04-18-95
DATE ANALYZED : 04-21-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY
HMX	1600	0	1580	99 %
RDX	1300	0	1320	102 %
,5-TNB	900	0	962	107 %
TETRYL	1650	0	1800	109 %
1,3-DNB	475	0	442	93 %
TNT	750	0	786	105 %
NITROBENZENE	850	0	880	104 %
2,6 DNT	1150	0	1140	99 %
2,4 DNT	700	0	713	102 %
o-NITROTOLUENE	1450	0	1450	100 %
p-NITROTOLUENE	1000	0	1000	100 %
m-NITROTOLUENE	950	0	965	102 %

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

875 Fee Fee Road • Maryland Heights, MO 63043-3211 • Office (314) 434-4570 • FAX (314) 434-0060

PAGE ___ OF ___

CHAIN OF CUSTODY RECORD

ATAS Client Name: STANLEY M. REMINGTON

Project Name: | Project #:

Form Completed By: SMR | PO #:

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	Nitroaromatics	Gross α	Gross β	Total U	TSS					Remarks
PW-5	4/18/95	1300		X			X	X	X	X						
WATER TREAT. PLANT	"	NOON			X						X					

Preservative: Ice, Chemical (see below)

Date

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature:	Signature:	Signature:	Signature:
STAN REMINGTON			
Printed Name:	Printed Name: ATAS	Printed Name:	Printed Name:
Firm:	Firm:	Firm:	Firm:
4/18/95 1420	4/18/95 1420		
Date/Time:	Date/Time:	Date/Time:	Date/Time:

SEND RESULTS TO (Name & Company): _____

Turnaround Requirements

___ 1 to 2 working days

___ 3 working days

___ 5 working days

___ 10 working days

___ 15 working days

Preservative codes

A - none

B - HNO_3

C - H_2SO_4

D - NaOH

E - HCl

SAMPLING PROTOCOL

Parameter	Soil	Water		Non-aqueous Fluids & Solid - Liquid Mixtures
	Type of Container	Type of Container		Type of Container
BTEX/Volatiles[1]	(1) 4 oz. precleaned glass (No Headspace)	(2) VOA vials (HCL) (No Headspace)		(1) VOA vial (No Headspace)
TPH[1]	(1) 4 oz. glass	(1) 32 oz. glass (HCL)		(1) 32 oz. glass
PNAs[1]	(1) 4 oz. precleaned glass	(1) 32 oz. precleaned amber glass		(1) 32 oz. glass
PCBs[1]	(1) 4 oz. glass	(1) 32 oz. precleaned amber glass		(1) 32 oz. glass
Metals (Wastewater)	—	(1) 32 oz. plastic (HNO_3)		—
Metals (Site Assessment Samples)	(1) 4 oz. glass	(1) 32 oz. plastic (Filtering necessary; add HNO_3) NOTE: Amount of sample is based on amount of solids.		—
Flashpoint[3] Corrosivity, Reactivity	(1) 4 oz. glass	(1) 16 oz. plastic		(1) 16 oz. glass
TCLP Metals[2]	(1) 16 oz. glass	<0.5% solids	(1) 32 oz. glass	(1) 32 oz. glass
		>0.5% solids	(1) 1/2 gallon glass	
ZHE (Zero Head-space Extraction)	(1) 4 oz. precleaned glass (No Headspace)	<0.5% solids	(2) VOA vials (No Headspace)	(1) VOA vial (No Headspace)
		>0.5% solids	(1) 32 oz. glass (No Headspace)	
TCLP BN/AE & Pest. & Herbs.[1,3]	(1) 4 oz. precleaned glass	(2) 32 oz. precleaned amber glass		(1) 32 oz. glass
TTOs (Total Toxic Organics)	(1) 4 oz. precleaned glass (No Headspace)	(2) VOA vials (HCL) and (2) 32 oz. precleaned amber glass (No Headspace)		(1) 32 oz. glass (No Headspace)

EXCEPTIONS

[1] When combining parameters for *only* soil, (1) 4 oz. precleaned glass container is necessary.

[2] When combining parameters for *only* soil, (1) 32 oz. glass container is necessary.

[3] When combining parameters for *only* water and other, (1) 1/2 gallon glass container is necessary.
When combining parameters for *only* water and other, and recovery correction is required, (1) gallon glass container is necessary.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

May 23, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #13106.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on May 15, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/pck

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 13106RA(220)

DATE : 05-23-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #13106
DATE SUBMITTED: 05-15-95
PROJECT : WELDON SPRING

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
NP-EPS1-051595-C	13106.01	GROSS ALPHA	1 +/- 3*
NP-EPS1-051595-C	13106.01	GROSS BETA	13 +/- 4*
NP-EPS1-051595-C	13106.01	TOTAL URANIUM (mg/L)	<0.005

VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi = PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1310601EX(220)
DATE : 05-22-95

SAMPLE MATRIX : WATER
ATAS # : 13106.01
DATE SUBMITTED: 05-15-95
DATE EXTRACTED: 05-17-95
DATE ANALYZED : 05-18-95
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : NP-EPS1-051595-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
2,6 DNT	0.0111	ND
2,4 DNT	0.0222	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150)	58 %
TETRACHLORO-M-XYLENE(30-150)	43 %

D= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: BK0517EX(220)
DATE : 05-22-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 05-15-95
DATE EXTRACTED: 05-17-95
DATE ANALYZED : 05-18-95
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	REPORTING LIMIT	RESULTS
2,6 DNT	0.010	ND
2,4 DNT	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150)	82 %
TETRACHLORO-M-XYLENE(30-150)	81 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: QC0517EX(220)
DATE : 05-22-95

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 05-15-95
DATE EXTRACTED: 05-17-95
DATE ANALYZED : 05-18-95
METHOD REF. : SW846-8090, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY
2,6 DNT	0.250	ND	0.231	92 %
DNT	0.250	ND	0.228	91 %

	AMT. FOUND SBD (ug/L)	PERCENT RECOVERY	PERCENT DIFFERENCE
,6 DNT	0.174	70 %	27 %
2,4 DNT	0.176	70 %	26 %

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1310601MT(220)
DATE : 05-22-95

SAMPLE MATRIX : WATER
ATAS # : 13106.01
DATE SUBMITTED: 05-15-95
PROJECT : WELDON SPRING
SAMPLE ID : NP-EPS1-051595-C

PARAMETER	DET LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE-SPEC.	1.0	mg/L	3.98	05-19-95	SM 418B
			METALS		
ARSENIC	10.0	ug/L	ND	05-18-95	SW 6010
CHROMIUM	1.0	ug/L	ND	05-18-95	SW 6010
LEAD	3.0	ug/L	ND	05-18-95	SW 6010
MANGANESE	1.0	ug/L	1.0	05-18-95	SW 6010
MERCURY	0.15	ug/L	0.19	05-17-95	SW 7470
SELENIUM	5.0	ug/L	ND	05-18-95	SW 6010

/L = PARTS PER BILLION(PPB)
/L = PARTS PER MILLION(PPM)
ND = NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: QC0518MT(220)

DATE : 05-22-95

QA/QC

DESCRIPTION		PARAMETER	RESULTS	
METHOD BLANK	05-19-95	NITRATE-SPEC	<1.0	mg/L
METHOD BLANK	05-18-95	ARSENIC	<10.0	ug/L
METHOD BLANK	05-18-95	CHROMIUM	<1.0	ug/L
METHOD BLANK	05-18-95	LEAD	<3.0	ug/L
METHOD BLANK	05-18-95	MANGANESE	<1.0	ug/L
METHOD BLANK	05-17-95	MERCURY	<0.15	ug/L
METHOD BLANK	05-18-95	SELENIUM	<5.0	ug/L
BLANK SPIKE	05-18-95	ARSENIC	107 %	RECOVERY
BLANK SPIKE	05-18-95	CHROMIUM	104 %	RECOVERY
BLANK SPIKE	05-18-95	LEAD	111 %	RECOVERY
BLANK SPIKE	05-18-95	MANGANESE	102 %	RECOVERY
BLANK SPIKE	05-18-95	MERCURY	83 %	RECOVERY
ANK SPIKE	05-18-95	SELENIUM	112 %	RECOVERY

C

ENVIRONMENTAL SAMPLE CHAIN-C CUSTODY / AUTHORIZATION FORM

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304
TELEPHONE (314) 441-8086 TELEX (314) 447-0803

Validation Documentation ☐

ES&H 4.1.2.1, Rev.6, Effective 11/92

WSSRAP Contact: _____ Lab/P.O. #: _____ Dept/Cost Code: _____
Phone Number: _____ Requisitioner: St. Charles
Request Number: _____ Turnaround Time: ☐ Standard ☐ Accelerated ☐ Priority ☐ Urgent ☐ Emergency

#	Sample ID	QC	Date Sampled	Matrix	Cont.	Preserv.	Parameters	Arch. (Y/N)
1	NP-EPSI-05595-C		5/15/95	Water	1-1 liter	HNO3	As,Cr,Hg,Mn,Se,Pb 13060,01	N
					1-1 liter glass	Ice	2,4-DNT	
					1-1 liter	H2SO4	NO3	
					1-4 liter	HNO3	U, Gross alpha, Gross beta	

26'c - 5-15-95 WE
IFS-BA AC

Sampler's Signature _____ Checked By _____ Technical Reviewer _____

Relinquished By	Received By	Date	Time	Reason for Transfer	Seal Intact? (Y/N)	Cooler Temp
		5/15/95	1320			
		5/15/95	1403			

AUTHORIZATION

MK-F Procurement _____ Date _____ ES&H _____ Date _____ Site Shipping Officer _____ Date _____

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

May 31, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #13167.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on May 23, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1316701M(227)
DATE : 05-30-95

SAMPLE MATRIX : WATER
ATAS # : 13167.01
DATE SUBMITTED: 05-23-95
PROJECT : WELDON SPRING
SAMPLE ID : NP EPQ1-052395-C

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
			INORGANICS		
NITRATE	1.0	mg/L	2.95	05-25-95	SM 418B
			METALS		
ARSENIC	10.0	ug/L	ND	05-26-95	SW 6010
CHROMIUM	1.0	ug/L	ND	05-26-95	SW 6010
LEAD	3.0	ug/L	ND	05-26-95	SW 6010
MANGANESE	1.0	ug/L	11.3	05-26-95	SW 6010
MERCURY	0.15	ug/L	ND	05-26-95	SW 7470
SELENIUM	5.0	ug/L	ND	05-26-95	SW 6010

ug/L = PARTS PER BILLION(PPB)
mg/L = PARTS PER MILLION(PPM)
ND = NOT DETECTED ABOVE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1316701R(227)

DATE : 05-30-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #13167
DATE SUBMITTED: 05-23-95
PROJECT : WELDON SPRING

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
NP-EPQ1-	13167.01	pCi/L	GROSS ALPHA	3 +/- 2*
052395 - C	13167.01	pCi/L	GROSS BETA	11 +/- 3*
	13167.01	mg/L	TOTAL URANIUM	0.014

* VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
PCI/L= PICOCURIES PER LITER
MG/L = PARTS PER MILLION(PPM)

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1316701X(227)
DATE : 05-30-95

SAMPLE MATRIX : WATER
ATAS # : 13167.01
DATE SUBMITTED: 05-23-95
DATE EXTRACTED: 05-24-95
DATE ANALYZED : 05-30-95
METHOD REF. : SW846-8090(MOD), EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : NP-EPQ1-052395-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	REPORTING LIMIT	RESULTS
2,6-DINITROTOLUENE	0.011	ND
2,4-DINITROTOLUENE	0.022	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	108 %
TETRACHLORO-M-XYLENE	100 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1316701X(227)

DATE : 05-30-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 05-23-95
DATE EXTRACTED: 05-24-95
DATE ANALYZED : 05-30-95
METHOD REF. : SW846-8090(MOD), EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	REPORTING LIMIT	RESULTS
2,6-DINITROTOLUENE	0.010	ND
2,4-DINITROTOLUENE	0.020	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	79 %
TETRACHLORO-M-XYLENE	84 %

ND= NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: QC0530EX(227)

DATE : 05-30-95

SAMPLE MATRIX : WATER
ATAS # : SPIKE BLANK/SPIKE BLANK DUPLICATE
DATE SUBMITTED: 05-23-95
DATE EXTRACTED: 05-24-95
DATE ANALYZED : 05-30-95
PROJECT : WELDON SPRING
SAMPLE ID : SPIKE BLANK/SPIKE BLANK DUPLICATE

SPIKE BLANK/SPIKE BLANK DUPLICATE RESULTS

	SPIKE ADDED (ug/L)	AMT. FOUND BLK (ug/L)	AMT. FOUND SB (ug/L)	SB PERCENT RECOVERY
2,6-DINITROTOLUENE	0.250	ND	0.234	94 %
2,4-DINITROTOLUENE	0.250	ND	0.241	96 %

	AMT. FOUND SBD (ug/L)	SBD PERCENT RECOVERY	RECOVERY PERCENT DIFFERENCE
2,6-DINITROTOLUENE	0.228	91 %	3.2 %
2,4-DINITROTOLUENE	0.235	94 %	2.1 %

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1316701M(227)

DATE : 05-30-95

QA/QC

DESCRIPTION		PARAMETER	RESULTS	
METHOD BLANK	05-26-95	ARSENIC	<10.0	ug/L
METHOD BLANK	05-26-95	CHROMIUM	<1.0	ug/L
METHOD BLANK	05-26-95	LEAD	<3.0	ug/L
METHOD BLANK	05-26-95	MANGANESE	<1.0	ug/L
METHOD BLANK	05-26-95	MERCURY	<0.15	ug/L
METHOD BLANK	05-26-95	SELENIUM	<5.0	ug/L
BLANK SPIKE	05-26-95	ARSENIC	107 %	RECOVERY
BLANK SPIKE	05-26-95	CHROMIUM	103 %	RECOVERY
BLANK SPIKE	05-26-95	LEAD	103 %	RECOVERY
BLANK SPIKE	05-26-95	MANGANESE	101 %	RECOVERY
BLANK SPIKE	05-26-95	MERCURY	110 %	RECOVERY
BLANK SPIKE	05-26-95	SELENIUM	109 %	RECOVERY

C

ENVIRONMENTAL SAMPLE CHAIN-C CUSTODY / AUTHORIZATION FORM

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304
TELEPHONE (314) 441-8086 TELEX (314) 447-0803

Validation Documentation ☐

ES&H 4.1.2.1, Rev.6, Effective 11/93

WSSRAP Contact:
Phone Number:
Request Number:

Lab/P.O. #:
Requisitioner: St. Charles
Dept/Cust Code:
Turnaround Time: ☐ Standard ☐ Accelerated ☐ Priority ☐ Urgent ☐ Emergency

#	Sample ID	QC	Date Sampled	Matrix	Cont.	Preserv.	Parameters (LM 6-23-95 AL-BA-165)	Arch. (Y/N)
	NP-EPQ1-052395-C		5/23/95	Water	1-1 liter	HNO3	As,Cr,Hg,Mn,Se,Pb 13167.01	N
					1-1 liter glass	Ice	2,4-DNT	
					1-1 liter	H2SO4	NO3	
					1-4 liter	HNO3	U, Grose alpha, Gross beta	

Sampler's Signature

Checked By

Technical Reviewer

Relinquished By	Received By	Date	Time	Reason for Transfer	Seal Intact? (Y/N)	Cooler Temp
		5/23/95	1347			
		5/23/95	1453			

AUTHORIZATION

C-F Procurement Date ES&H Date Site Director Date

Analytical Services, Inc.

P.O. Box 515
Williston, VT 05495

Phone: (802) 878-5138
Toll Free: (800) 723-4432
Fax: (802) 878-6765

May 5, 1995

Brad Ledbetter
Missouri Department of Natural Resources
Southeast Regional Office
P.O. Box 1420
Poplar Bluff, MO 63901

Dear Brad:

Enclosed please find the results of the microscopic particulate analysis (MPA) performed on the Weldon Springs TP Well #4 (95-4827) sample received in our laboratory on April 19, 1995.

Thank you for using Analytical Services for your testing needs. If you have any questions or if we can be of service in the future, please do not hesitate to contact us at 1-800-723-4432.

Sincerely,

ANALYTICAL SERVICES, INC.

Janine M. Parsons
Staff Microbiologist

JMP/kew

Enclosures

cc: Thomas Aaron (Weldon WTP)
Dan Daugherty (Missouri DNR)

Project No.: 95109-009

Analytical Services, Inc.

Data Interpretation

One sample from Missouri Department of Natural Resources was analyzed using microscopic particulate analysis (MPA). MPA is one parameter used to determine if a groundwater source is under the direct influence of surface water (GWUDI). As stated in the Guidance Manual for Compliance with the Surface Water Treatment Rule, other factors, including a site survey, review of construction records, and water quality data need to be examined carefully when making a GWUDI determination. Recent data indicate that fundamental controls on particulate movement in the ground need to be taken into account in GWUDI determinations. These include the degree of hydraulic communication (timing and amount of surface water mixed with groundwater), time of travel in the ground, and natural filtration.

This sample was characteristic of groundwater. There was a minimum amount of sediment recovered from the filter (0.5 mL in 657 gallons) and only a trace remained after flotation processing. Extremely low numbers of particulates and biological organisms were detected and none of these are exclusive to surface waters, but can be found in groundwater sources as well.

Janine M. Parsons
Microbiologist

Project No.: 95109-009

Analytical Services, Inc.

REPORT: PARTICULATES, *GIARDIA*, AND *CRYPTOSPORIDIUM*

SAMPLE DATA

Client:	Missouri Dept. of Natural Resources	Filter Color:	off white
Sample No.:	95109-9	Treatment:	none
Sample Location:	Weldon Springs TP Well #4 (95-4827)	Sediment Volume:	0.5 mL
Sampling Date:	April 18, 1995	Volume Floated:	0.5 mL
Date Received:	April 19, 1995	Pellet V After Float:	< 10 µL
Water Type:	well	Filter:	Commercial Honeycomb 1 µm
Volume Filtered:	657 gallons	pH:	Unknown
Turbidity:	Unknown	Type of Levitant:	Percoll Sucrose
		S.G. of Levitant:	1.15

PARTICULATE ANALYSIS

Numbers reported are per 100 gallons.

ND = None Detected

Amorphous Debris:	Fine confluent	Crustaceans:	ND
Vegetative Debris:	ND	Crustacean Parts:	ND
Diatoms:	ND	Crustacean Eggs:	ND
Algae:	ND	Gastrotrichs:	ND
Rotifers:	ND	Tardigrades:	ND
Rotifer Eggs:	ND	Nematodes:	ND
Spores:	ND	Nematode Eggs:	ND
Pollen:	10	Amoebae:	ND
		Invertebrate Eggs:	ND

Analyst: jp

GIARDIA AND *CRYPTOSPORIDIUM*

Volume Assayed (sediment equivalent)	Detection Limit per 100 Liters	Results (Expressed per Volume Assayed)			
		Confirmed		Unconfirmed	
		Giardia Cysts	*Cryptosporidium* Oocysts	*Giardia* Cysts	*Cryptosporidium* Oocysts
3.9×10^5 L	0.26	None detected	None detected	None detected	None detected

Sample was processed, stained and examined using the protocol of ASTM Method P229. This method employs an immunofluorescent dual monoclonal antibody which is specific for *Giardia* and *Cryptosporidium*. Positive controls were stained and examined concurrently. Numbers are reported using significant figures.

Analyst: pc

Project No.:95109-009

SOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY

FIELD SHEET AND CHAIN OF CUSTODY RECORD

COLLECTOR'S NAME AND AFFILIATION (PLEASE PRINT)
DAN DAUGHERTY,
MISSOURI DNR, DEQ, PDUP, SCRO

DESCRIPTION OF SHIPMENT
NUMBER OF SAMPLES ▶ ONE
NUMBER OF CONTAINERS ▶ ONE
HOW SEALED ▶ HAND TAPED & SIGNED

PROJECT OR MAJOR FIELD CODE / SITE CODE

SAMPLE NUMBER	SAMPLE DESCRIPTION	COLLECTED DATE	COLLECTED TIME	ANALYSES REQUESTED	FIELD ANALYSES	SITE CODE
95-4827	ST. CHARLES COUNTY COURT, WELDON SPRING TREATMENT PLANT, WELL #4 PWS ID# 607 9507	4-7-95	6:35	MPA GLANDIA, CRYPTOSPORIDIUM ANALYSIS.		3467
		4-11-95	8:45			3000

CHAIN OF CUSTODY RECORD

RELINQUISHED BY		RECEIVED BY		DATE	TIME	IF SHIPPED	DELIVERED DATE	DELIVERED TIME	PICKED UP DATE	PICKED UP TIME
Dan Daugherty		L Parz								
☒ SEALED	☐ SHIPPED	☐ SEALED		4/11/95	10:00	CARRIER U.P.S.			4/12/95	3:30
RELINQUISHED BY		RECEIVED BY				CARRIER				
☐ SEALED	☐ SHIPPED	☐ SEALED								
RELINQUISHED BY		RECEIVED BY				CARRIER				
☐ SEALED	☐ SHIPPED	☐ SEALED								

Joe R. Nichols
County Engineer - Water Dept.
St. Charles County

May 9, 1995

Mr. Lynn Bultman
Missouri American Water Co.
P.O. Box 390
Cottleville, MO. 63338

Dear Mr. Bultman:

Enclosed please find the results of the Microscopic Particulate Analysis (MPA) that Missouri American requested on Well #2.

The results show the sample was characteristic of ground water.

If you have any questions or concerns, please advise.

Sincerely,

Joe R. Nichols
County Engineer

JRN/bjb
Enclosure
cc: Mr. Tom Engle, Director of Administration
Mr. Stanley M.Remington
Mr. Mike Dougherty, Alliance Resources
Mr. Tom Aaron, Water Plant Supervisor

201 North Second Street • Suite 429 • Saint Charles, Missouri 63301-2874
314-949-7305 • Fax 314-949-7307

Analytical Services, Inc.

Data Interpretation

One sample from St. Charles was analyzed using microscopic particulate analysis (MPA). MPA is one parameter used to determine if a groundwater source is under the direct influence of surface water (GWUDI). As stated in the Guidance Manual for Compliance with the Surface Water Treatment Rule, other factors, including a site survey, review of construction records, and water quality data need to be examined carefully when making a GWUDI determination. Recent data indicate that fundamental controls on particulate movement in the ground need to be taken into account in GWUDI determinations. These include the degree of hydraulic communication (timing and amount of surface water mixed with groundwater), time of travel in the ground, and natural filtration.

This sample was characteristic of groundwater. There was a minimum amount of sediment recovered from the filter (1.0 mL in 513 gallons) and only a trace remained after flotation processing. Extremely low numbers of particulates and biological organisms were detected and none of these are exclusive to surface waters, but can be found in groundwater sources as well.

Janine Parsons
Staff Microbiologist

Project No.: 95088-028

Analytical Services, Inc.

REPORT: PARTICULATES, *GIARDIA*, AND *CRYPTOSPORIDIUM*

MPLE DATA

Client:	St. Charles County	Filter Color:	White
Sample No.:	95088-028	Treatment:	None
Sample Location:	Well #2 (PW02 March 28, 1995)	Sediment Volume:	1.0 mL
Sampling Date:	March 28, 1995	Volume Floated:	1.0 mL
Date Received:	March 29, 1995	Pellet V After Float:	10 µL
Water Type:	raw/well	Filter:	Commercial Honeycomb 1 µm
Volume Filtered:	513 gallons	pH:	7.17/7.29
Turbidity:	1.0/0.86 NTU	Type of Levitant:	Percoll Sucrose
		S.G. of Levitant:	1.15

PARTICULATE ANALYSIS

Numbers reported are per 100 gallons. **ND = none detected.**

Amorphous Debris:	Fine confluent	Crustaceans:	ND
Vegetative Debris:	ND	Crustacean Parts:	ND
Diatoms:	ND	Crustacean Eggs:	ND
;ae:	ND	Gastrotrichs:	ND
Rotifers:	ND	Tardigrades:	ND
Rotifer Eggs:	ND	Nematodes:	2
Spores:	ND	Nematode Eggs:	ND
Pollen:	ND	Amoebae:	ND
		Invertebrate Eggs:	ND

Analyst: jp

GIARDIA AND *CRYPTOSPORIDIUM*

Volume Assayed (sediment equivalent)	Detection Limit per 100 Liters	Results (Expressed per Volume Assayed)			
		Confirmed		Unconfirmed	
		Giardia Cysts	*Cryptosporidium* Oocysts	*Giardia* Cysts	*Cryptosporidium* Oocysts
2.5×10^3 L	0.4	None detected	None detected	None detected	None detected

Sample was processed, stained and examined using the protocol of ASTM Method F229. This method employs an immunofluorescent dual monoclonal antibody which is specific for *Giardia* and *Cryptosporidium*. Positive controls were stained and examined concurrently. Numbers are reported using significant figures.

Analyst: sh

oject No.: 95088-028

Department of Energy
Oak Ridge Operations
Weldon Spring Site
Remedial Action Project Office
7295 Highway 94 South
St. Charles, Missouri 63304

April 4, 1995

Distribution:

QUARTERLY SITE AND QUARRY WATER TREATMENT PLANT EFFLUENT DATA SUMMARY - FIRST QUARTER 1995

Enclosed please find the subject effluent data summary sheets for the batches of water treated and discharged during the first quarter of 1995. Eight batches S#047 through S#054) and three batches (Q#028 and Q#030) have been treated and discharged from the site and quarry water treatment plants, respectively.

If you have any questions, please call me or Bruce Ballew at (314) 441-8978.

Sincerely,

Stephen H. McCracken
Project Manager
Weldon Spring Site
Remedial Action Project

Enclosure:
As stated

cc w/o enclosure:
Martha Windsor/Geri Kountzman, MDNR

Distribution List

Larry Erickson
Division of Environmental Quality
Missouri Department of Natural
Resources
Post Office Box 176
Jefferson City, Missouri 65102

Dan Wall
Remedial Project Manager
U. S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Stanley Remington
Consulting Hydrologist
919 Broadmoor Lane
St. Charles, Missouri 63301

Wayne Black
St. Louis County Health Department
111 South Meremac
2nd Floor
Clayton, Missouri 63105

Conn Roden
St. Louis County Health Department
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Clayton, Missouri 63105

Terry Gloriod
Vice President for Production
St. Louis County Water Department
535 North New Ballas
St. Louis, Missouri 63141

Dave Visintainer
City of St. Louis Water Division
Chain of Rocks Plant
10450 Riverview Drive
St. Louis, Missouri 63137

SUMMARY OF QWTP (BATCH 028) ANALYTICAL RESULTS

1/31/95 0900

FROM ALL AGENCIES RECEIVING SAMPLES ON 1/25/95

PARAMETER	NPDES LIMITS (mg/l)	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20.0 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	0.0027 mg/l		NA	NA	
CHROMIUM	0.1	0.005 mg/l		NA	NA	
COPPER ***	1	<0.004 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.0065 mg/l		NA	NA	
MERCURY	0.004	<0.0002 mg/l		NA	NA	
SELENIUM	0.02	0.0025 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	0.47 mg/l		NA	NA	
NITRATE+NITRITE AS N	*	2.9 mg/l		NA	NA	
SULFATE	500	270 mg/l		NA	NA	
CHLORIDE	*	260 mg/l		NA	NA	
GROSS ALPHA	*	3.3 ± 4.2 pCi/l		NA	NA	2.8 ± 1.2 pCi/l
GROSS BETA	*	11.2 ± 4.5 pCi/l		NA	NA	9.7 ± 1.1 pCi/l
URANIUM, TOTAL	**	2.88 ± 0.15 pCi/l		NA	NA	2.9 ± 0.4 pCi/l
RADIUM-226 ***	*	<1.0 pCi/l		NA	NA	NA
RADIUM-228 ***	*	<5.0 pCi/l		NA	NA	NA
THORIUM-230 ***	*	<1.0 pCi/l		NA	NA	NA
THORIUM-232 ***	*	<1.0 pCi/l		NA	NA	NA
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	N.A.	NA	NA	NA	NA
2. VOA	*	N.A.		NA	NA	NA
3. PCBs	*	<0.80 ug/l		NA	NA	NA
4. PESTICIDES	*	N.A.				
5. METALS / OTHERS	*	N.A.				
pH	6.0 – 9.0 S.U.	6.28	NA	NA	NA	NA

* =MONITORING ONLY, NO PERMIT DISCHARGE LIMITS

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Parameter required once/month.

NA = Not analyzed by agency.

= Data received after batch was discharged

SUMMARY OF QWTP (BATCH 029) ANALYTICAL RESULTS

2/21/95 0900

FROM ALL AGENCIES RECEIVING SAMPLES ON 2/13/95

PARAMETER	NPDES LIMITS (mg/l)	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	NA	
CHROMIUM	0.1	0.0032 mg/l		NA	NA	
COPPER ***	1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.0051 mg/l		NA	NA	
MERCURY	0.004	<0.0002 mg/l		NA	NA	
SELENIUM	0.02	<0.003 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	0.31 mg/l		NA	NA	
NITRATE+NITRITE AS N	*	1.0 mg/l		NA	NA	
SULFATE	500	290 mg/l		NA	NA	
CHLORIDE	*	170 mg/l		NA	NA	
GROSS ALPHA	*	6.7 ±4.6 pCi/l		NA	NA	2.0 ±1.0 pCi/l
GROSS BETA	*	10.9 ±5.1 pCi/l		NA	NA	7.8 ±1.0 pCi/l
URANIUM, TOTAL	**	3.04 ±0.20 pCi/l		NA	NA	1.4 ±0.3 pCi/l
RADIUM-226 ***	*	<0.613 pCi/l		NA	NA	NA
RADIUM-228 ***	*	<1.34 pCi/l		NA	NA	NA
THORIUM-230 ***	*	<0.236 pCi/l		NA	NA	NA
THORIUM-232 ***	*	<0.393 pCi/l		NA	NA	NA
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	N.A.	NA	NA	NA	NA
2. VOA	*	N.A.		NA	NA	NA
3. PCBs	*	<0.60 ug/l		NA	NA	NA
4. PESTICIDES	*	N.A.				
5. METALS / OTHERS	*	N.A.				
pH	6.0 – 9.0 S.U.	6.40	NA	NA	NA	NA

* =MONITORING ONLY, NO PERMIT DISCHARGE LIMITS

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Parameter required once/month.

NA = Not analyzed by agency.

= Data received after batch was discharged

SUMMARY OF QWTP (BA CH 030) ANALYTICAL RESULTS

3/16/95 0900

FROM ALL AGENCIES RECEIVING SAMPLES ON 3/09/95

PARAMETER	NPDES LIMITS (mg/l)	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA		
CHROMIUM	0.1	<0.003 mg/l		NA		
COPPER ***	1	<0.003 mg/l		NA		
LEAD	0.1	<0.002 mg/l		NA		
MANGANESE	0.1	0.0079 mg/l		NA		
MERCURY	0.004	<0.0002 mg/l		NA		
SELENIUM	0.02	0.0036 mg/l		NA		
CYANIDE, AMENABLE	0.0075	<0.005 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA		
FLUORIDE	4.0	0.22 mg/l		NA	NA	
NITRATE+NITRITE AS N	*	<0.1 mg/l		NA		
SULFATE	500	280 mg/l		NA	NA	
CHLORIDE	*	170 mg/l		NA	NA	
GROSS ALPHA	*	0.4 ±3.3 pCi/l		NA		3.5 ±1.4 pCi/l
GROSS BETA	*	7.3 ±5.2 pCi/l		NA		7.1 ±1.0 pCi/l
URANIUM, TOTAL	**	1.617 ±0.10 pCi/l		NA		2.4 ±0.4 pCi/l
RADIUM-226 ***	*	<1.0 pCi/l		NA	NA	NA
RADIUM-228 ***	*	<5 pCi/l		NA	NA	NA
THORIUM-230 ***	*	<1 pCi/l		NA	NA	NA
THORIUM-232 ***	*	<1 pCi/l		NA	NA	NA
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	N.A.	NA	NA	NA	NA
2. VOA	*	N.A.		NA	NA	NA
3. PCBs	*	<0.80 ug/l		NA	NA	NA
4. PESTICIDES	*	N.A.				
5. METALS / OTHERS	*	N.A.				
pH	6.0 – 9.0 S.U.	6.28	NA	NA	NA	NA

* =MONITORING ONLY, NO PERMIT DISCHARGE LIMITS

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Parameter required once/month.

NA = Not analyzed by agency.

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 047) ANALYTICAL RESULTS

1/16/95 0830

From all parties receiving samples on 12/28/94

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20.0 mg/l		NA	NA	NA
TSS	50 / 30	<12.0 mg/l		NA	NA	NA
ARSENIC	0.1	<0.003 mg/l	<0.005 mg/l	NA	NA	
CHROMIUM	0.1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.0014 mg/l	<0.020 mg/l	NA	NA	
MERCURY	0.004	<0.00020 mg/l		NA	NA	
SELENIUM	0.02	0.003 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l	<0.025 ug/l	NA	NA	
FLUORIDE	4.0	2.0 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.41 mg/l	<0.52 mg/l	NA	NA	
SULFATE	500	230 mg/l		NA	NA	
CHLORIDE	*	100 mg/l		NA	NA	
GROSS ALPHA	*	1.9 ±2.3 pCi/l		NA	NA	3.1 ±1.3 pCi/l
GROSS BETA	*	7.9 ±2.5 pCi/l		NA	NA	8.6 ±1.6 pCi/l
URANIUM, TOTAL	**	1.903 ±0.10 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226	*	0.2 ±0.5 pCi/l		NA	NA	
RADIUM-228	*	6.7 ±5.0 pCi/l		NA	NA	
THORIUM-230	*	0.0 ±0.5 pCi/l		NA	NA	NA
THORIUM-232	*	0.0 ±0.5 pCi/l		NA	NA	NA
pH (Std. Units)	6 – 9	7.29		NA	NA	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.80 ug/l	<1.0 ug/l	NA	NA	NA

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month. Already analyzed this month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 048) ANALYTICAL RESULTS

1/13/95 1645

From all parties receiving samples on 1/09/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	16.0 mg/l		NA	NA	NA
TSS	50 / 30	<5.00 mg/l		NA	NA	NA
ARSENIC	0.1	0.0024 mg/l		NA	NA	
CHROMIUM	0.1	<0.004 mg/l		NA	NA	
LEAD	0.1	<0.001 mg/l		NA	NA	
MANGANESE	0.1	0.004 mg/l		NA	NA	
MERCURY	0.004	<0.00020 mg/l		NA	NA	
SELENIUM	0.02	<0.001 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.003 mg/l		NA	NA	
2,4--DNT	0.22 ug/l	<0.03 ug/l		NA	NA	
FLUORIDE	4.0	0.28 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.48 mg/l		NA	NA	
SULFATE	500	417 mg/l		NA	NA	
CHLORIDE	*	104 mg/l		NA	NA	
GROSS ALPHA	*	<2.69 pCi/l		NA	NA	1.4 ±1.1 pCi/l
GROSS BETA	*	8.42 ± 1.01 pCi/l		NA	NA	8.2 ±1.0 pCi/l
URANIUM, TOTAL	**	0.284 ± 0.0068 pCi/l		NA	NA	<1.0 pCi/l
RADIUM--226	*	***		NA		
RADIUM--228	*	***		NA	NA	
THORIUM--230	*	***		NA	NA	NA
THORIUM--232	*	***		NA	NA	NA
pH (Std. Units)	6 -- 9	6.24		NA	NA	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI--VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.20 ug/l		NA	NA	NA

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month. Already analyzed this month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 049) ANALYTICAL RESULTS

1/23/95 1045

From all parties receiving samples on 1/18/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20.0 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	<0.010 mg/l	
CHROMIUM	0.1	<0.003 mg/l		NA	<0.001 mg/l	
LEAD	0.1	<0.002 mg/l		NA	<0.003 mg/l	
MANGANESE	0.1	0.0012 mg/l		NA	<0.001 mg/l	
MERCURY	0.004	<0.0002 mg/l		NA	<0.00015 mg/l	
SELENIUM	0.02	<0.002 mg/l		NA	<0.005 mg/l	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 mg/l		NA	<0.0222 ug/l	
FLUORIDE	4.0	1.8 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.37 mg/l		NA	NA	
SULFATE	500	180 mg/l		NA	NA	
CHLORIDE	*	150 mg/l		NA	NA	
GROSS ALPHA	*	1.5 ±2.2 pCi/l		NA	4 ±3 pCi/l	2.2 ±1.2 pCi/l
GROSS BETA	*	10.2 ±2.8 pCi/l		NA	10 ±4 pCi/l	8.2 ±1.0 pCi/l
URANIUM, TOTAL	**	0.186 ±0.013 pCi/l		NA	<3.4 pCi/l	<1.0 pCi/l
RADIUM-226	*	***		NA	NA	
RADIUM-228	*	***		NA	NA	
THORIUM-230	*	***		NA	NA	NA
THORIUM-232	*	***		NA	NA	NA
pH (Std. Units)	6 - 9	6.62		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	<50.0 ug/l		NA	NA	NA
2. VOA	*	<20.0 ug/l		NA	NA	NA
3. PCBs / PESTICIDES	*	<1 ug/l / <5 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NOTE 1				

* = Monitoring Parameter

** = Design Value of 30 pCi/l; Not to Exceed 100 pCi/l

*** = Monitoring parameter once per month. Already analyzed this month.

**** = Required Annually

NA = Not Analyzed

NOTE 1 : 30.0 ug/l Iron ; 7.9 ug/l Zinc ; 0.016 Phenols (Total). All others non-detectable.

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 050) ANALYTICAL RESULTS

2/3/95 1045

From all parties receiving samples on 1/30/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	NA	
CHROMIUM	0.1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	<0.002 mg/l		NA	NA	
MERCURY	0.004	<0.0002 mg/l		NA	NA	
SELENIUM	0.02	<0.002 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.005 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	2.2 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.60 mg/l		NA	NA	
SULFATE	500	220 mg/l		NA	NA	
CHLORIDE	*	130 mg/l		NA	NA	
GROSS ALPHA	*	1.0 ±1.7 pCi/l		NA	NA	2.1 ±1.2 pCi/l
GROSS BETA	*	7.6 ±2.1 pCi/l		NA	NA	6.8 ±1.0 pCi/l
URANIUM, TOTAL	**	0.235 ±0.013 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226	*	<1 pCi/l		NA	NA	
RADIUM-228	*	<5 pCi/l		NA	NA	
THORIUM-230	*	<1 pCi/l		NA	NA	NA
THORIUM-232	*	<1 pCi/l		NA	NA	NA
pH (Std. Units)	6 - 9	6.39		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.80 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NA				

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month. Already analyzed this month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 051) ANALYTICAL RESULTS

2/15/95 1315

From all parties receiving samples on 2/9/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	NA	
CHROMIUM	0.1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.0025 mg/l		NA	NA	
MERCURY	0.004	0.00042 mg/l		NA	NA	
SELENIUM	0.02	<0.003 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.005 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	1.9 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.54 mg/l		NA	NA	
SULFATE	500	200 mg/l		NA	NA	
CHLORIDE	*	110 mg/l		NA	NA	
GROSS ALPHA	*	0.2 ± 2.1 pCi/l		NA	NA	1.7 ±1.0 pCi/l
GROSS BETA	*	6.1 ± 2.5 pCi/l		NA	NA	6.6 ±1.0 pCi/l
URANIUM, TOTAL	**	0.461 ± 0.040 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226	*	***		NA	NA	
RADIUM-228	*	***		NA	NA	
THORIUM-230	*	***		NA	NA	NA
THORIUM-232	*	***		NA	NA	NA
pH (Std. Units)	6 - 9	6.07		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.50 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NA				

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month. Already analyzed this month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 052) ANALYTICAL RESULTS

3/3/95 1445

From all parties receiving samples on 2/24/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	NA	
CHROMIUM	0.1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.0012 mg/l		NA	NA	
MERCURY	0.004	<0.0002 mg/l		NA	NA	
SELENIUM	0.02	<0.003 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	0.0052 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	2.0 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	3.1 mg/l		NA	NA	
SULFATE	500	250 mg/l		NA	NA	
CHLORIDE	*	170 mg/l		NA	NA	
GROSS ALPHA	*	3.4 ± 3.4 pCi/l		NA	NA	2.3 ± 1.2 pCi/l
GROSS BETA	*	18.8 ± 4.1 pCi/l		NA	NA	19.7 ± 1.3 pCi/l
URANIUM, TOTAL	**	0.826 ± 0.047 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226	*	***		NA	NA	
RADIUM-228	*	***		NA	NA	
THORIUM-230	*	***		NA	NA	NA
THORIUM-232	*	***		NA	NA	NA
pH (Std. Units)	6 - 9	6.34		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.60 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NA				

* = Monitoring Parameter

** = Design Value of 30 pCi/l; Not to Exceed 100 pCi/l

*** = Monitoring parameter once per month. Already analyzed this month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BA[illegible]H 053) ANALYTICAL RESULTS

3/16/95 0835

From all parties receiving samples on 3/8/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<20 mg/l		NA	NA	NA
TSS	50 / 30	<12 mg/l		NA	NA	NA
ARSENIC	0.1	<0.002 mg/l		NA	NA	
CHROMIUM	0.1	<0.003 mg/l		NA	NA	
LEAD	0.1	<0.002 mg/l		NA	NA	
MANGANESE	0.1	0.019 mg/l		NA	NA	
MERCURY	0.004	0.00020 mg/l		NA	NA	
SELENIUM	0.02	0.0043 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.005		NA	NA	
2,4-DNT	0.22 ug/l	<0.20 ug/l		NA	NA	
FLUORIDE	4.0	1.4 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.29 mg/l		NA	NA	
SULFATE	500	290 mg/l		NA	NA	
CHLORIDE	*	120 mg/l		NA	NA	
GROSS ALPHA	*	1.1 ±2.3 pCi/l		NA	NA	2.6 ±1.2 pCi/l
GROSS BETA	*	13.9 ±3.9 pCi/l		NA	NA	11.1 ±1.1 pCi/l
URANIUM, TOTAL	**	0.944 ±0.054 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226 ***	*	<1 pCi/l		NA	NA	
RADIUM-228 ***	*	<5 pCi/l		NA	NA	
THORIUM-230 ***	*	<1 pCi/l		NA	NA	NA
THORIUM-232 ***	*	<1 pCi/l		NA	NA	NA
pH (Std. Units)	6 – 9	7.19		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.80 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NA				

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month.

NA = Not Analyzed

= Data received after batch was discharged

SUMMARY OF SWTP (BATCH 054) ANALYTICAL RESULTS

3/22/95 0835

From all parties receiving samples on 3/17/95

PARAMETER	NPDES LIMITS (mg/l) Unless noted	PMC DATA RESULTS	MoDNR DATA RESULTS	EPA DATA RESULTS	ST. CHARLES COUNTY DATA RESULTS	ST. LOUIS COUNTY H & W DATA RESULTS
COD	90 / 60	<5.0 mg/l		NA	NA	NA
TSS	50 / 30	4.0 mg/l		NA	NA	NA
ARSENIC	0.1	<0.007 mg/l		NA	NA	
CHROMIUM	0.1	<0.008 mg/l		NA	NA	
LEAD	0.1	<0.00280 mg/l		NA	NA	
MANGANESE	0.1	0.00292 mg/l		NA	NA	
MERCURY	0.004	<0.0001 mg/l		NA	NA	
SELENIUM	0.02	<0.0049 mg/l		NA	NA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	<0.022 ug/l		NA	NA	
FLUORIDE	4.0	1.89 mg/l		NA	NA	
NITRATE + NITRITE AS N	20	0.811 mg/l		NA	NA	
SULFATE	500	256 mg/l		NA	NA	
CHLORIDE	*	93.2 mg/l		NA	NA	
GROSS ALPHA	*	<2.92 pCi/l		NA	NA	2.7 ±1.1 pCi/l
GROSS BETA	*	6.7 ±1.54 pCi/l		NA	NA	9.0 ±1.2 pCi/l
URANIUM, TOTAL	**	0.453 ±0.519 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226 ***	*	***		NA	NA	
RADIUM-228 ***	*	***		NA	NA	
THORIUM-230 ***	*	***		NA	NA	NA
THORIUM-232 ***	*	***		NA	NA	NA
pH (Std. Units)	6 – 9	8.04		NA	NA	
PRIORITY POLLUTANTS****	(SEE BELOW)					
1. SEMI-VOA	*	NA		NA	NA	NA
2. VOA	*	NA		NA	NA	NA
3. PCBs	*	<0.21 ug/l		NA	NA	NA
4. METALS/OTHERS	*	NA				

* = Monitoring Parameter

** = Design Value of 30 pCi / l; Not to Exceed 100 pCi / l

*** = Monitoring parameter once per month. Already sampled this month.

NA = Not Analyzed

= Data received after batch was discharged

DATE: 05/02/95

ST. CHARLES COUNTY WATER DEPARTMENT

MONTHLY WATER USAGE REPORT

MONTH OF: APRIL

	USAGED	AVG MGD	Y TO D	AVG MGD
PLANT PRODUCTION	269177000	8.90	1015057000	8.458
PLANT USE	8148000	0.20	44738000	0.372
DELIVERED TO SYSTEM	261029000	8.70	970415000	8.086
MISSOURI CITIES WATER	195518000	6.50	786349000	6.553
WATER DISTRICT #2 24" LINE	45625000	1.50	141129000	1.176
WATER DIST. #2 NEW MELLE	6204000	8.20	22080000	0.184
NATIONAL GUARD AREA	91000	0	140000	
TOTAL METER SALES	247474000	8.20	949698000	7.914
UNMETERED AND UNACCOUNTED	13555000	0.40	21866000	0.182

INVENTORY OF CHEMICALS

		LIME		CHLORINE
PREV. BALANCE	+	357843	+	11156
RECEIVED	+	288320	+	16000
TOTAL	=	646163	=	27156
USED	-	355566	-	17215
BALANCE	=	290597	=	9941
POUNDS PER 1000 GALLONS	=	1.32	=	0.064
PARTS PER MILLION	=	152	=	7.42
AVG. POUNDS PER DAY	=	11852	=	574
POUNDS USED YEAR TO DATE	=	1259613	=	63475

DATE: 05/02/95 FOR THE MONTH OF: APRIL

METER READINGS

ACCOUNT #	METER	TO: 04/28/95	FROM: 03/31/95	USAGED
MISSOURI CITIES BOOSTER STATION				
	ULTRA SONIC #1 +:		-:	=:
	ULTRA SONIC #2 +:		-:	=:
	TOTALIZER +:	5491231	-: 5297571	=: 19366000
METERS BEFORE MISSOURI CITIES BOOSTER STATION		TO: 04/03/95	FROM: 03/02/95	USAGED
04-50-1328350	1. FH ANNEX 4" +:	1177	-: 1191	=:
04-50-1328500	2. MO STATE SHED +:	199	-: 194	=: 5000
04-50-1330000	3. DOE LAB LARGE +:	430	-: 418	=: 12000
	SMALL +:	12425	-: 11718	=: 707000
04-50-1330401	4. DOE FIRE LINE +:	17404	-: 16565	=: 839000
04-50-1330701	5. DOE TRAILERS +:	82	-: 82	=:
04-50-1330100	6. DOE 8" #1 LARGE+:	6264	-: 6174	=: 90000
	SMALL+:	6100	-: 6071	=: 29000
04-50-1330200	7. DOE 8" #2 LARGE+:	2029	-: 1973	=: 56000
	SMALL+:	2480	-: 2443	=: 37000
04-50-1320200	8. DOE 3" +:	3799	-: 4041	=:
04-50-1328550	9. FH SCHOOL +:	12889	-: 12806	=: 83000
			TOTAL	=: 1858000
	MISSOURI CITIES TOTAL			=: 195518000
R DIST. #2 24" LINE		TO: 05/ /95	FROM: 04/01/95	USAGED
	24" EAST +:	201747	-: 201747	=:
	24" WEST +:	60431	-: 14806	=: 45625
	BYPASS +:	2340	-: 2340	=:
	WATER DIST. #2 TOTAL			=: 45625
	NEW MELLE +:	265819	-: 259579	=: 6240

MONTHLY REPORT

JUNE 1995

BY

Stanley M. Remington

Consulting Hydrologist

I. CHEMICAL ANALYSES

The results from sampling well PW-9 was received and is appended. This well was sampled on May 18, 1995, one day before the well field was flooded. All parameters are within historical ranges and are well below the NPDES limits.

Because of the flooding it was not possible to sample any of the wells during June, 1995. Instead I sampled the composite of all of the wells before the water was treated. This was done on June 15, 1995. The results have not yet been received. No treated water samples from either the quarry or chemical plant site were taken for the month of June. The quarry is almost dry.

II. REPORTS

A 238+ page report was received during June 1995 from the Department of Energy. The name of the report is "Weldon Spring Site Environmental Report for Calendar Year 1994." It was published in May 1995. The report was prepared to provide information about the public safety and environmental protection programs conducted by the Weldon Spring Site Remedial Action Project (WSSRAP).

The report summarized the data from the environmental monitoring program, characterized trends and environmental conditions at the site and confirms compliance with environmental and health protection standards and requirements.

The report covers Dose Estimates, Air Monitoring, NPDES Monitoring covering Surface Water, Groundwater, Biological and Air Monitoring. Very few changes were detected from the previous year. Mostly increases in radiological parameters were noted along the north side of the Femme Osage Slough, where one would expect them because of the southward flow of the contaminated groudwater from the quarry. As in the past, the radiological contaminants have not crossed over from the slough. This is due to several factors, mostly geological.

The report is too lengthy to go into detail, but it is available to anyone wishing to read it from the Department of Energy, St. Charles County, St. Charles County Library or me.

III. FUTURE PLANS

Providing the flood recedes sufficiently to drive to the wells, I will sample on of the pumping wells during the latter part of June 1995. I will attend the annual Missouri

Waste Management Conference in Columbia, Missouri from July 16 - 18, 1995.

IV. MISCELLANEOUS

The quarry has been cleaned out except to the fractures and joints in the limestone. It is difficult to predict when the floods will end at the well site. As long as the levee is breached there is no protection against any flooding.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

June 16, 1995

Stanley M. Remington
919 Broadmoor Lane
St. Charles, MO 63301

RE: ATAS #13136.01
Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on May 18, 1995.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr
Project Manager

Enclosures

JAC/dms

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1313601X(227)

DATE : 06-16-95

SAMPLE MATRIX : WATER
ATAS # : 13136.01
DATE SUBMITTED: 05-18-95
DATE ANALYZED : 05-25-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : PW-9

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

ND NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1313601X(227)

DATE : 06-16-95

SAMPLE MATRIX : WATER
ATAS # : METHOD BLANK
DATE SUBMITTED: 05-18-95
DATE ANALYZED : 05-25-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

EXPLOSIVE	QUANTITATION LIMIT	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

ND NOT DETECTED ABOVE QUANTITATION LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1313601X(227)

DATE : 06-16-95

SAMPLE MATRIX : WATER
ATAS # : LABORATORY CONTROL SAMPLE
DATE SUBMITTED: 05-18-95
DATE ANALYZED : 05-24-95
METHOD REF. : SW846-8330, EPA METHODOLOGY
PROJECT : WELDON SPRING
SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY
HMX	1600	0	1820	114 %
RDX	1300	0	1390	107 %
2,4,5-TNB	900	0	968	108 %
TETRYL	1650	0	1810	110 %
1,3-DNB	475	0	461	97 %
TNT	750	0	800	107 %
NITROBENZENE	850	0	873	103 %
2,6 DNT	1150	0	1090	95 %
2,4 DNT	700	0	706	101 %
o-NITROTOLUENE	1450	0	1610	111 %
p-NITROTOLUENE	1000	0	1050	105 %
m-NITROTOLUENE	950	0	1030	108 %

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON
919 BROADMOOR LANE
ST. CHARLES, MO 63301
ATTN: STANLEY M. REMINGTON

REPORT: 1313601R(227)
DATE : 06-16-95

SAMPLE MATRIX : WATER
ATAS EPISODE : #13136
DATE SUBMITTED: 05-18-95
PROJECT : WELDON SPRING

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
PW-9	13136.01	pCi/L	GROSS ALPHA	5 +/- 4*
PW-9	13136.01	pCi/L	GROSS BETA	9 +/- 5*
PW-9	13136.01	mg/L	TOTAL URANIUM	0.011

* VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.96σ.
pCi/L = PICOCURIES PER LITER
mg/L = PARTS PER MILLION(PPM)

ATAS

AMERICAN TECHNIC_ & ANALYTICAL SERVICES, Inc.

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CHAIN OF CUSTODY RECORD

ATAS Client Name: STAN REMINGTON

Project Name: WELDON SPRING | Project #:

Form Completed By: [signature] | PO #:

Sample ID	Sample Date	Sample Time	Sample Matrix	Grab	Comp	No. of Containers	Type of Analysis: TOTAL U	GROSS α	GROSS β	NITRATE	TSS	Preservative: Ice / Chemical (see below)	Remarks	Lab Use Only: Log-in LM; Date 5-18-95; Location/Temp.
PW-9	5/18/95	1320			X		X	X	X	X				132162 1
WATER TREAT. PLANT	5/18/95										X			

VH 6-16-95

Relinquished by:	Received by:	Relinquished by:	Received by:
Signature: S. REMINGTON	Signature: [signature]	Signature:	Signature: L. MASSENBERG
Printed Name:	Printed Name:	Printed Name:	Printed Name: ATAS
Firm: 5/18/95 13:40	Firm: 5/18/95 1340	Firm:	Firm: 5/18/95 1340
Date/Time	Date/Time	Date/Time	Date/Time

Turnaround Requirements

____ 1 to 2 working days

____ 3 working days

____ 5 working days

____ 10 working days

____ 15 working days

Preservative codes

A - none
B - HNO_3
C - H_2SO_4
D - NaOH
E - HCl

SEND RESULTS TO (Name & Company): _____

Original to ATAS Copy to Client

DATE: 6/01/95

ST. CHARLES COUNTY WATER DEPARTMENT

MONTHLY WATER USAGE REPORT

MONTH OF: MAY 95	USAGED	AVG MGD	Y TO D	AVG MGD
PLANT PRODUCTION	297936000	9.610	1312993000	8.695
PLANT USE	9726000	0.310	54464000	0.360
DELIVERED TO SYSTEM	288210000	9.300	1248625000	8.335
MISSOURI CITIES WATER	228832000	7.380	1015181000	6.723
WATER DISTRICT #2 24" LINE	51415000	1.650	192544000	1.275
WATER DIST. #2 NEW MELLE	7340000	0.230	29420000	0.195
NATIONAL GUARD AREA	62000	0	202000	
TOTAL METER SALES	287649000	9.270	1237347000	8.194
UNMETERED AND UNACCOUNTED	561000	0.020	22427000	0.148

INVENTORY OF CHEMICALS

	LIME	CHLORINE
PREV. BALANCE	+ 290597	+ 9940
RECEIVED	+ 392280	+ 16000
TOTAL	= 682877	= 25940
USED	- 370553	- 18260
BALANCE	= 312324	= 7680
POUNDS PER 1000 GALLONS	= 1.24	= 0.061
PARTS PER MILLION	= 149	= 7.35
AVG. POUNDS PER DAY	= 11953	= 589
POUNDS USED YEAR TO DATE	= 1630166	= 81735

DATE: 06/01/95 FOR THE MONTH OF: MAY

METER READINGS

ACCOUNT #	METER	TO: 5/31/95	FROM: 4/28/95	USAGED
MISSOURI CITIES BOOSTER STATION				
	ULTRA SONIC #1	+:	-:	=:
	ULTRA SONIC #2	+:	-:	=:
	TOTALIZER	+: 5718604	-: 5491231	=: 227373000
METERS BEFORE MISSOURI CITIES BOOSTER STATION		TO: 5/03/95	FROM: 4/3/95	USAGED
04-50-1328350	1. FH ANNEX 4"	+: 1178	-: 1177	=: 1000
4-50-1328500	2. MO STATE BHED	+: 202	-: 199	=: 3000
04-50-1330000	3. DOE LAB LARGE	+: 450	-: 430	=: 20000
	SMALL	+: 13002	-: 12425	=: 577000
4-50-1330401	4. DOE FIRE LINE	+: 18127	-: 17404	=: 723000
4-50-1330701	5. DOE TRAILERS	+: 82	-: 82	=:
04-50-1330100	6. DOE 8" #1 LARGE	+:	-: 6264	=:
	SMALL	+:	-: 6100	=:
4-50-1330200	7. DOE 8" #2 LARGE	+: 2063	-: 2029	=: 33000
	SMALL	+: 2495	-: 2480	=: 15000
04-50-1320200	8. DOE 3"	+:	-: 3799	=:
4-50-1328550	9. FH SCHOOL	+: 12976	-: 12889	=: 87000
			TOTAL	=: 1459000
			MISSOURI CITIES TOTAL	=: 228832000
R DIST. #2 24" LINE		TO: 6/01/95	FROM: 5/01/95	USAGED
	24" EAST	+: 201747	-: 201747	=:
	24" WEST	+: 111846	-: 60431	=: 51415000
	BYPASS	+: 2304	-: 2304	=:
			WATER DIST. #2 TOTAL	=: 51415000
	NEW MELLE	+: 273159	-: 265819	=: 7340000